Site History

Prior to 1970 the site was used as cultivated farmland.

1970 Helena Chemical Corporation acquired the site and construction of a chemical plant for the manufacture of Propanil herbicide[1].
A man named Kencade started manufacturing Methoxychlor at the site[3].

1971 Propanil manufacturing began with a proclaimed production capacity of 185,000-200,000 gallons per month[2].
Plant was sold to J.A. Williams who in turn sold the plant to Eagle River Chemical Corporation who was reported to be a newly formed AR corporation (September 1971) that was initially controlled (2/3 stock ownership) by the Ansul Company. DNBP production was added.
Transvaal Inc. purchases and operates the phenoxy herbicide facilities of Hercules Inc. in Jacksonville AR.

1972 Ansul Company sold its majority stock interest in Eagle River back to J.A. Williams as the sole shareholder. Eagle River was subsequently merged into VERTAC Inc.
Vicksburg Chemical Company purchases Amax Chemical Corporation and Gulf Oil Chemical facilities and began production of DNBP in Vicksburg MS.
Three drum disposal burial pits, two disposal ponds, and other product or trash disposal sites constructed by Ansul [1].

1973 Ansul Company sells stock interest November 1973

1976 Helena Chemical Company was reported to be disposing "wash water" into unlined ponds on the site[3].

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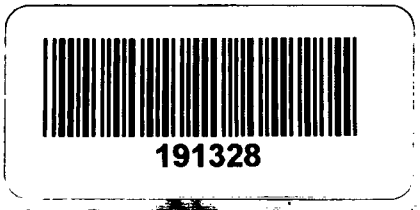
1978 Three unlined ponds closed.
VERTAC takes over operations December 31, 1978

1979 Priority Pollutant Analysis of NPDES Permit AR0036412 effluent by EPA (Mississippi River Outfall)

1980 VERTAC files filed a hazardous waste management facility application (Part A) for surface impoundments

1984 VERTAC files Part B hazardous waste permit application for surface impoundments August 15, 1984



1985 Ecology and Environment Dioxin Sampling memo to EPA Region 6 - no TCDD indicated

1986 Cedar Chemical Corporation acquired the site from VERTAC.
ADPC&E Notice of Violation Discharges to biological treatment system leads to CAO LIS 86-
Ecology and Environment Inc. Sampling Mission for EPA Region 6 indicating extensive contamination with pesticides and other organic compounds. Manufacturing operations included methymil, permethrin, cypermethrin, and a hydrocarbon polymer consisting of kerosene and Isonax 132. Extensive yellow-stained soil reported. Contaminants detected: 4,4-DDT; Methoxychlor; Aldrin; Dieldrin; Chlordane; 4,4-DDE; 1,2 Dichloroethane; Phenol; Bis(2-ethyl hexyl)phthalate; 1,2 Dichlorobenzene; Gamma-BHC; Toluene; Ethylbenzene; Chlorobenzene; Xylenes; and 2-Hexanaone.

1988 Hydrogeologic Study conducted by Grubbs, Garner and Hoskyn Inc.
CCC reports of Non-compliance (Stormwater)
Surface Impoundment Sampling and Analysis Report prepared by Sorrells Research Laboratory

1989 Ground water monitoring wells installed
NPDES Permit AR0036412 Notice of Violations EPA (Stormwater)
ADPC&E Groundwater sampling detects: Methoxybenzene, Dichlorobenzene, Chloroaniline, Dichloroanilines, Phenylaniline, and elevated TOC
Contingency plan implemented on September 25, 1989-reactor vessel explosion

1990 NPDES Permit AR0036412 Renewed
ADPC&E Groundwater sampling detects: 1,2 Dichlorbenzene; Dichloroanilines, Propanil, Bromacil, and elevated TOC
CCC notifies ADPC&E that drum disposal discovered and requests assistance (April 6, 1990)

1991 CCC Reports of Non-compliance (several) to NPDES Permit AR0036412 (Stormwater)
CCC Reports significant lethality in biomonitoring to NPDES (Stormwater)
NPDES Permit AR0036412 Notices (several) of Violation
CCC enters into CAO LIS 91-118 with ADPC&E Hazardous Waste Division for expanded investigation and corrective actions for releases to soils and groundwater

1990 CCC identifies drum disposal areas present in an area for proposed plant expansion (DCA Unit) and approaches ADPC&E desiring to remove drum disposal area. Site characterization report identifies drum disposal areas and relocated DCA tank farm to avoid construction over highly contaminated soils[4]. ADPC&E clearly expressed a need for interim corrective action at other sites as well (May 9, 1990) and advises no piece-meal corrective action approval, facility wide corrective actions needed. CCC proceeds with removal absent of ADPC&E approval. ADPC&E advises CCC that the final Groundwater Report for CAO LIS 86-027 is incomplete (lacks final engineering report) and is in violation of the CAO(July 25, 1990).

CCC submits final engineering report (August 4, 1990) admitting that there is leakage from the biological treatment ponds into groundwater.

1992 ADPC&E conditionally approves RFI Preliminary Report December 15, 1992

1993 ADPC&E conditionally approves RFI Workplan June 1, 1993

1994 ADPC&E approves CCC's Plan for Implementation of Interim Measures requiring measures for groundwater contamination. ADPC&E points out that 1,2-Dichloroethane contaminated groundwater fails toxicity characteristics at property line. Also ADPC&E requires interim measure remediation plan for Sites 4, 9, and an off-site private water well survey (August 25,1994)
CCC objects to interim measures on the basis of the lack of receptor (extent of contamination deficiency issue) and proposed additional investigation

1995 Remedial Facility Investigation Report submitted March 1995
ADPC&E NOD RFIR June 1995
Interim Response Work Plan submitted April 10, 1995

1997 ADPC&E approves Remedial Facility Investigation Report (June 1997) and requires a CMS for Sites 1, 2, 3, 4, 5, 6, 8, and 9. CMS required to include a minimum of biological and thermal treatment of soils. Additionally, an imminent threat to hh&e was declared requiring the following interim measures: remove all buried drums from the drum vault, control and complete plume delineation including long term GWM and contingencies for control, control releases from biological treatment ponds into groundwater, complete integrity assessments of all process sumps wastewater piping. Interim measures plan required.
Plant fire incident 10-6-97

1998 RA Workplan (Protocol) submitted May 11, 1998
ADPC&E issues NOD on RA Workplan (Protoco)l, September 21, 1998

1999 ADEQ approves Risk Assessment Protocol with conditions and exceptions, April 23, 1999
ADEQ grants time extension for RA and requests a schedule to complete corrective action selection by 2005, June 1, 1999
Risk Assessment Report October 1999 submitted

2000 ADEQ issues NOD regarding risk assessment May 15, 2001

2001 Cedar agrees to expedite corrective action under the CAS program
9-27-01Scoping meeting identify high priority corrective actions: groundwater in alluvial aquifer, east EDC source area, Site 2 groundwater leachability, Sites 3,6 and 9soils.

Associations

J.A. Williams	Reported to have purchased the plant from original builder of the chemical plant[3]. Chairman of VERTAC Inc. Billings, MT.
C.E. Formby	President of Helena Chemical Company, Memphis, TN. Director of VERTAC Inc.
J.C. Bumpers	Secretary-Treasurer, Director of VERTAC Inc.
N.D. Morgan, Jr.	President of Vicksburg Chemical Company, Vicksburg MS President of Chemform Corporation, West Memphis AR President of Eagle River Chemical Corporation, West Helena AR President of Eagle Kaid Chemical Company, West Helena AR
Joe Porter	Plant Chemical Engineer, last known address Memphis TN
VERTAC Inc.	Corporate Headquarters Billings MT
Ansul Company	Address unknown, former conrtolling interest in Eagle River Chemical Corporation, see Cedar Chemical Corporation v. Wormald U.S. Inc., Phillips County AR No. E-91-349
Wormald U.S. Inc.	Possibly predecessor of Ansul Company, address undnown, Wormald paid for the excavation and removal of three drum disposal areas following lawsuit filed in Phillips County AR where CCC sought reimbursement
Mobile Oil Company	contract NBE production-major source of groundwater EDC contamination

Notes:

1 CCC Facility Investigation Preliminary Report, September 1992
2 VERTAC Inc. Information Brochure
3 Ecology and Environment, Inc. Memo to EPA Region 6, July 1986
4 Site Characterization Report, June 1990, Woodward Clyde Consultants

Misc.

Transmissivity	16-7800 ft^2/day from site specific, regional 10,000-35500 ft^2/day
Gradient	0.0006ft/ft S-SW from site specific
Hyd Cond	247-329 ft/day
Flow Rate	840-2,320 gpm regional
Specific Capacity	120-129 gpm/ft regional
GW Velocity	0.82 ft/day

Groundwater Contamination

Groundwater was investigated in three phases with approximately three additional monitoring events. Data collection was not consistent within the monitoring systems throughout the monitoring history. The phased approach was to complete the extent of contamination investigation on the basis that once an area was confirmed contaminated investigation would proceed downgradient until the plume was defined. A final monitoring system was required to be developed following completion of plume delineation. A final monitoring system was never developed although ADEQ directed Cedar to do so as an interim measure.

Site 1